

WHAT IS CLAIMED IS:

1 1. A cache memory configured to store media data to be output as a
2 media stream, the cache memory comprising:
3 a session data file configured to store properties of the media stream, wherein
4 the properties are selected from the class: encoding scheme and duration;
5 a plurality of data object files, each data object file individually and directly
6 accessible by a file system, each data object file comprising a data object configured to store
7 a portion of the media data.

1 2. The cache memory of claim 1
2 wherein a data object comprises an object meta-data portion and a plurality of
3 data chunks,
4 wherein the object meta-data portion is configured to store a number
5 representing a total number of data chunks in the plurality of data chunks, and
6 wherein each data chunk of the plurality data chunks are configured to store a
7 subset of the portion the media data.

1 3. The cache memory of claim 2
2 wherein each data chunk comprises a chunk meta-data portion, a packet meta-
3 data portion, and a plurality of packet payloads,
4 wherein the chunk meta-data portion is configured to store a number
5 representing a total number of packet payloads in the plurality of packet payloads,
6 wherein the packet meta-data portion is configured to store a presentation time
7 for each packet payload, and
8 wherein each of the plurality of packet payloads are configured to store only a
9 portion of the subset of the portion of the media data.

1 4. The cache memory of claim 2 wherein each data object has an
2 associated presentation time.

1 5. The cache memory of claim 4 wherein each data object has an
2 associated duration time selected from the group: approximately: 5 seconds, 10 seconds, 15
3 seconds, 20 seconds, 30 seconds, 1 minute.

1 6. The cache memory of claim 2 wherein the object meta-data portion is
2 also configured to store data selected from the group: file format version, beginning
3 presentation time, ending presentation time, file size.

1 7. The cache memory of claim 3 wherein the data chunk meta-data
2 portion is also configured to store file offsets to adjacent data chunks in the plurality of data
3 chunks.

1 8. A method for storing in a cache memory, media data to be output as
2 streaming media, the method comprising:
3 storing a first plurality of data objects in the cache memory, the first plurality
4 of data objects configured to store a first plurality of data associated with a first encoding of
5 the media data, wherein each data object of the first plurality of data objects is directly
6 addressable in the cache memory via an associated object handle, and wherein each data
7 object of the first plurality of data objects is configured to store a portion of data from the
8 first plurality of data; and
9 storing a second plurality of data objects in the cache memory, the second
10 plurality of data objects configured to store a second plurality of data associated with a
11 second encoding of the media data, wherein each data object of the second plurality of data
12 objects is directly addressable in the cache memory via an associated object handle, and
13 wherein each data object of the second plurality of data objects is configured to store a
14 portion of data from the second plurality of data.

1 9. The method of claim 8 wherein the first encoding of the media data
2 and the second encoding of the media data have a different encoding property selected from
3 the class: target stream bit rates, target stream bit depth, thinning parameters.

1 10. The method of claim 9
2 wherein a data object of the first plurality of data objects comprises an object
3 meta-data portion and a plurality of data chunks,
4 wherein the data object is configured to store a first portion of data from the
5 first plurality of data
6 wherein the object meta-data portion is configured to store a number
7 representing a total number of data chunks in the plurality of data chunks, and

8 wherein the plurality of data chunks are configured to store a subportion of
9 data from the first portion of data.

1 11. The method of claim 10
2 wherein a data chunk of the plurality of data chunks comprises a chunk meta-
3 data portion, packet meta-data portion, and a plurality of packet payloads,
4 wherein the data chunk is configured to store a subportion of data from the
5 portion of data,
6 wherein the chunk meta-data are configured to store a number representing the
7 total number of packet payloads in the plurality of packet payloads,
8 wherein the packet meta-data portion is configured to store a presentation time
9 for each packet payload, and
10 wherein the plurality of packet payloads are configured to store a smaller
11 subportion of data from the portion of data.

1 12. The method of claim 10 wherein the data chunk has a presentation time
2 different from a presentation time for other data chunks in the plurality of data chunks.

1 13. The method of claim 12 wherein the smaller subportion of data has an
2 associated duration of less than or equal to approximately a time selected from the group: 10
3 seconds, 30 seconds, 1 minute.

1 14. The method of claim 10 wherein the first portion of data are associated
2 with a first logical segment of the media data.

1 15. A computer program product for a computer system including a
2 processor and a memory includes:
3 code that directs the processor to store a first plurality of data associated with
4 an encoding of a first source media in a first plurality of data objects in the memory, wherein
5 each data object of the first plurality of data objects is addressable in the memory by the
6 processor via an associated first object filename, and wherein each data object of the first
7 plurality of data objects is configured to store a portion of data from the first plurality of data;
8 and
9 code that directs the processor to store a second plurality of data associated
10 with an encoding of a second source media in a second plurality of data objects in the
11 memory, wherein each data object of the second plurality of data objects is addressable in the

memory by the processor via an associated second object filename, and wherein each data object of the second plurality of data objects is configured to store a portion of data from the second plurality of data,

wherein the codes reside on a tangible media.

16. The computer program product of claim 15 wherein a data object of the first plurality of data objects comprises an object meta-data portion and a plurality of data chunks,

wherein code that directs the processor to store a first plurality of data comprises:

code that directs the processor to store a subset of data from the portion of data from the first plurality of data into the plurality of data chunks; and

code that directs the processor to store a number representing a total number of data chunks in the plurality of data chunks into the object meta-data portion.

17. The computer program product of claim 16 wherein a data chunk of the plurality of data chunks comprises a chunk meta-data portion, packet meta-data portion, and a plurality of packet payloads,

wherein code that directs the processor to store the subset of data comprises: code that directs the processor to store a smaller subset of data from the portion of data from first plurality of data into the plurality of packet payloads;

code that directs the processor to store a number representing a total number of packet payloads in the plurality of packet payloads into the chunk meta-data portion; and

code that directs the processor to store a presentation time for each packet payload in the packet meta-data portion.

18. The computer program product of claim 17 wherein the plurality of data chunks each have an associated duration of less than or equal to approximately a time selected from the group: 10 seconds, 30 seconds, 1 minute.

19. The computer program product of claim 16 wherein the plurality of data chunks each have a size less than or equal to approximately a size selected from the group: 64 Kbytes, 128 Kbytes, 512 Kbytes, 1 Mbyte.

20. The computer program product of claim 17

2 wherein a data object of the second plurality of data objects comprises an
3 object meta-data portion and a plurality of data chunks,
4 wherein a data chunk of the plurality of data chunks comprises a chunk meta-
5 data portion, packet meta-data portion, and a plurality of packet payloads, and
6 wherein code that directs the processor to store a second plurality of data
7 comprises:
8 code that directs the processor to store a subset of data from the portion
9 of data from the second plurality data into the plurality of packet payloads;
10 code that directs the processor to store a number representing a total
11 number of packet payloads in the plurality of packet payloads into the chunk meta-data
12 portion;
13 code that directs the processor to store a presentation time for each
14 packet payload into the packet meta-data portion; and
15 code that directs the processor to store a number representing a total
16 number of data chunks in the plurality of data chunks into the object meta-data portion.

21. A cache memory configured to store streaming media data, the cache
memory comprising:

code that directs a processor to receive streaming media data from a streaming
media server, the streaming media data comprising a series of packets of media data, the
packets of media data including header data and payload data;

code that directs the processor to separate the header data from payload data;
a session data file storing a portion of the header data, wherein the header data
are selected from the group: encoding scheme, duration; and

a plurality of data objects storing the payload data, wherein each data object of
the first plurality of data objects is directly addressable in the cache memory via an associated
object handle, and wherein each data object of the first plurality of data objects stores a
portion of the payload data.

22. The cache memory of claim 21

wherein a data object from the plurality of data objects comprises an object
meta-data portion and a plurality of data chunks,

wherein the object meta-data portion stores a number representing a total
number of data chunks in the plurality of data chunks, and

6 wherein each data chunk of the plurality data chunks stores a subset of the
7 portion the payload data.

1 23. The cache memory of claim 22
2 wherein a data chunk from the plurality of data chunks comprises a chunk
3 meta-data portion, a packet meta-data portion, and a plurality of packet payloads,
4 wherein the chunk meta-data portion stores a number representing a total
5 number of packet payloads in the plurality of packet payloads,
6 wherein the packet meta-data portion stores a presentation time for each
7 packet payload, and
8 wherein each of the plurality of packet payloads stores only a portion of the
9 subset of the portion of the payload data.

1 24. The cache memory of claim 21 wherein each data object is associated
2 with a presentation time.

1 25. The cache memory of claim 21 wherein the streaming media data are
2 in a format selected from the group: Microsoft Media Streaming - compatible, Real Time
3 Streaming Protocol -compatible, RealSystem - compatible, QuickTime-compatible.

1 26. The cache memory of claim 21 wherein code that directs the processor
2 to receive streaming media data from a streaming media server comprises code that directs a
3 processor to receive streaming media data from the streaming media server on a port selected
4 from the group: 554, 2001, 1755, 80.

1 27. The cache memory of claim 21 wherein object handle comprises an
2 object filename.